ABSTRACT

The Antimicrobial Activities of Ethyl Acetate Extract of *Caulerpa lentillifera* from Kangean Island Against *Escherichia coli, Staphylococcus aureus,* and *Candida albicans*

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The aim of the current study is to investigate the antimicrobial activities, antioxidant activities, and phytochemical screening of *Caulerpa lentillifera* taken from Kangean Island**.** The antimicrobial activity of ethanol 96%, ethyl acetate, and *n*-hexane extract of *Caulerpa lentillifera* was determined using diffusion and microdilution method against *Escherichia coli* ATCC 8739, *Staphylococcus aureus* ATCC 6538, and *Candida albicans* ATCC 10231. The result of the diffusion test showed that only the ethyl acetate extract of *Caulerpa lentillifera* has antimicrobial activity. The antimicrobial activity test using microdilution method was defined as minimum inhibitory concentration (MIC). MTT ((3-(4,5-dimethylthiazol-2-yl)-2,5) diphenyltetrazolium bromide reagent was added in the microdilution method to visualize the presence of living organism. The results showed that the ethyl acetate extract of sea grape *Caulerpa lentillifera* inhibited the growth of *Escherichia coli* ATCC 8739, *Staphylococcus aureus* ATCC 6538, and *Candida albicans* ATCC 10231 at MIC 1000 ppm (100 µg/well), 500 ppm (50 µg/well), 1000 ppm (100 µg/well), respectively. Antioxidant test was performed using DPPH method and the result showed that the ethyl acetate extract had antioxidant activity. The results of phytochemical screening test showed that ethyl acetate extract contained terpenoid and flavonoid compounds.

Keyword : Antimicrobial activity, *Caulerpa lentillifera, Escherichia coli* ATCC 8739, *Staphylococcus aureus* ATCC 6538, *Candida albicans* ATCC 10231.